

Assignment -3
Python Programming

Assignment Date	19 September 2022
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Student Roll Number	19EC006
Maximum Marks	2 Marks

Question-1:

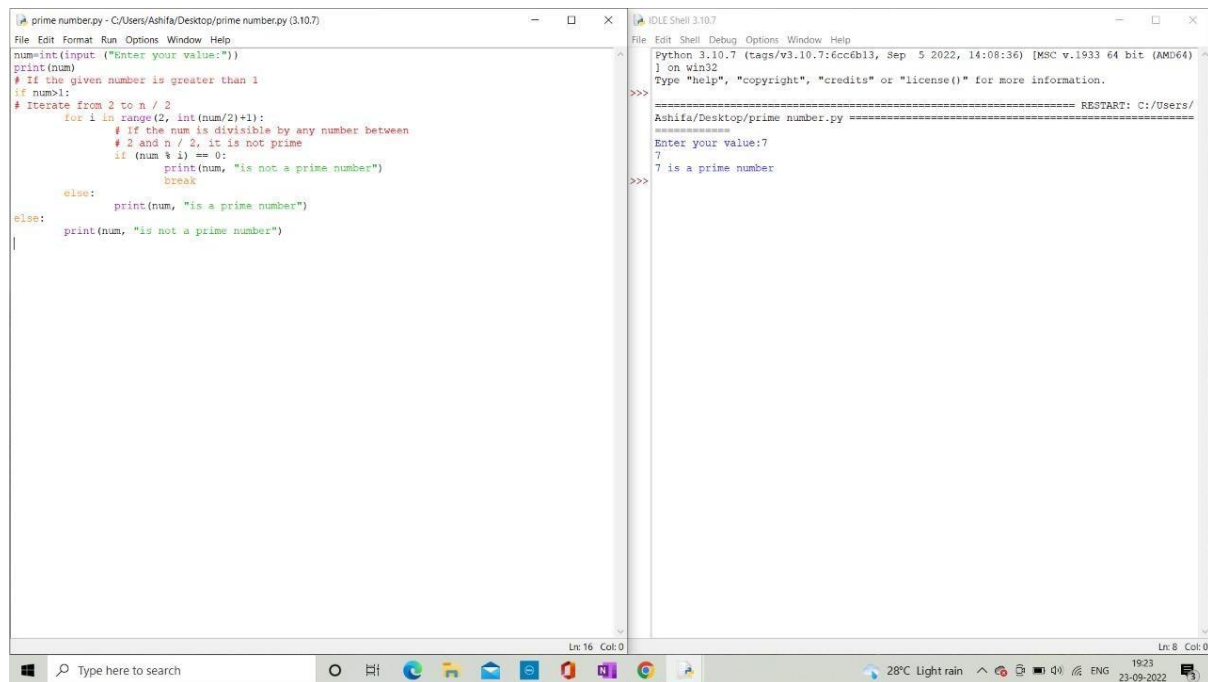
Write a python program to test a given number is prime or not.

Solution:

```
num=int(input("Enter your value:"))
print(num)
# If given number is greater than 1
if num>1:
    # Iterate from 2 to n / 2
    for i in range(2, int(num/2)+1):
        # If num is divisible by any number between
        # 2 and n / 2, it is not prime
        if (num % i) == 0:
            print(num, "is not a prime number")
            break
        else:
            print (num, "is a prime number")
        else:
            print (num, "is not a prime number")
```

Output:

```
Enter your value: 7
7
7 is a prime number.
```



Question-2:

Write a program to generate odd numbers from m to n using while loop.

Solution:

Python program to print odd Numbers

```
m=int(input("Enter the m value:"))
```

```
n=int(input("Enter the n value:"))
```

```
for num in range(m,n+1):
```

```
    while(num%2!=0):
```

```
        print(num)
```

```
        break
```

Output:

```
Enter the m value:1
```

```
Enter the n value:10
```

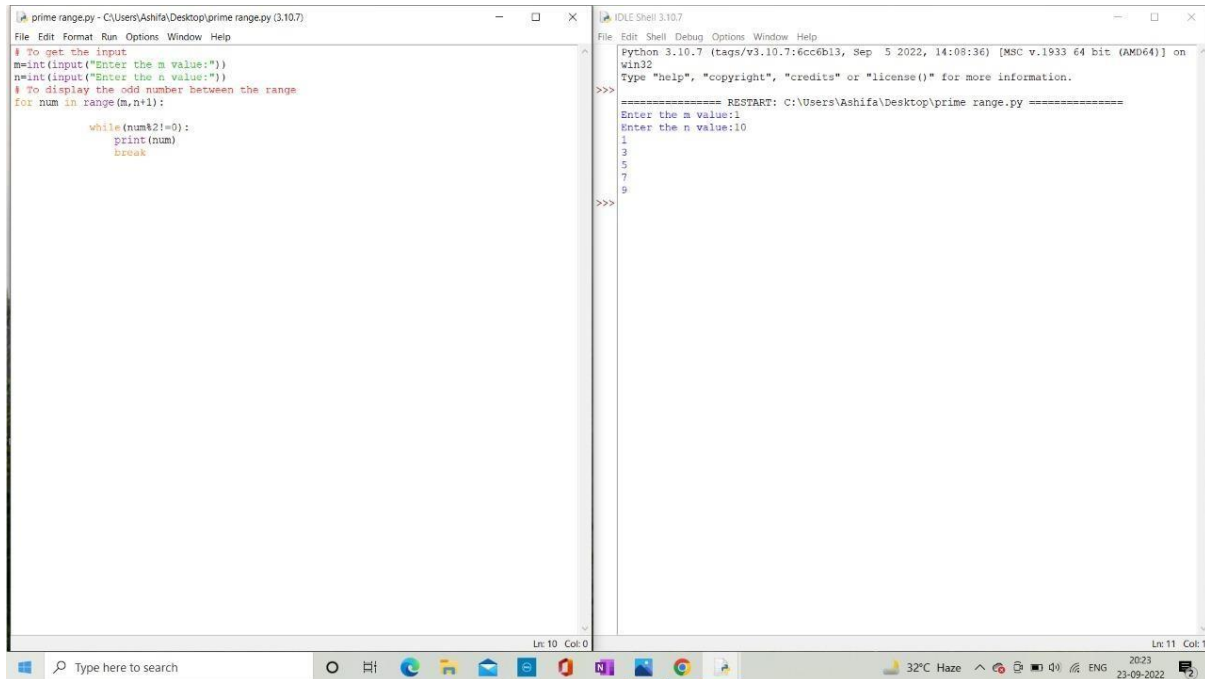
```
1
```

```
3
```

```
5
```

```
7
```

```
9
```



```
prime range.py - C:\Users\Ashifa\Desktop\prime range.py (3.10.7)
File Edit Format Run Options Window Help
# To get the input
m=int(input("Enter the m value:"))
n=int(input("Enter the n value:"))
# To display the odd number between the range
for num in range(m,n+1):
    while(num%2!=0):
        print(num)
        break

IDLE Shell 3.10.7
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on
win32
Type "help", "copyright", "credits" or "license()" for more information.
===== RESTART: C:\Users\Ashifa\Desktop\prime range.py =====
Enter the m value:1
Enter the n value:10
1
3
5
7
9
>>>
```

Question-3:

Write a python program to display prime number series up to given number.

Solution:

Python program to display all the prime numbers within an interval

```
lower = int(input("Please Enter minimum value:"))
```

```
upper = int(input("Please Enter maximum value:"))
```

```
print("Prime numbers between", lower, "and", upper, "are:")
```

```
for num in range(lower, upper + 1):
```

```
    # all prime numbers are greater than 1
```

```
    if num > 1:
```

```
        for i in range(2, num):
```

```
            if (num % i) == 0:
```

```
                break
```

```
        else:
```

```
            print(num)
```

Output:

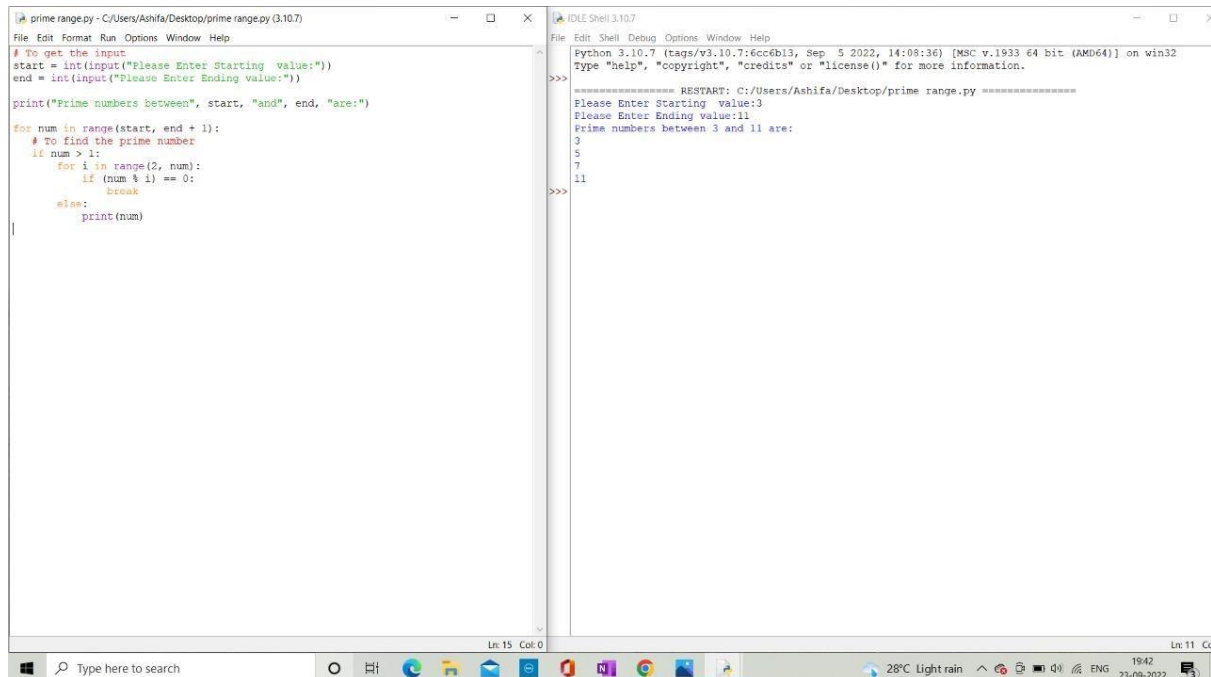
Please Enter Starting Value:3

Please Enter Ending Value:11

Prime number between 3 and 11 are:

3

5
7
11



The screenshot shows a Python IDE with two windows. The left window, titled 'prime_range.py - C:/Users/Ashifa/Desktop/prime_range.py (3.10.7)', contains the following code:

```
# To get the input
start = int(input("Please Enter Starting value:"))
end = int(input("Please Enter Ending value:"))

print("Prime numbers between", start, "and", end, "are:")

for num in range(start, end + 1):
    # To find the prime number
    if num > 1:
        for i in range(2, num):
            if (num % i) == 0:
                break
        else:
            print(num)
```

The right window, titled 'IDLE Shell 3.10.7', shows the execution output:

```
Python 3.10.7 (tags/v3.10.7:6cc6b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:/Users/Ashifa/Desktop/prime_range.py =====
Please Enter Starting value:3
Please Enter Ending value:11
Prime numbers between 3 and 11 are:
3
5
7
11
>>>
```

Question-4:

Write a python program to generate Fibonacci series.

Solution:

Program to display the Fibonacci sequence up to n-th term

```
nterms = int(input("How many terms? "))
```

first two terms

```
n1, n2 = 0, 1
```

```
count = 0
```

check if the number of terms is valid

if nterms <= 0:

```
    print("Please enter a positive integer")
```

if there is only one term, return n1

elif nterms == 1:

```
    print("Fibonacci sequence upto",nterms,":")
```

```
    print(n1)
```

generate fibonacci sequence

else:

```
    print("Fibonacci sequence:")
```

```
    while count < nterms:
```

```
        print(n1)
```

```
nth = n1 + n2
# update values
n1 = n2
n2 = nth
count += 1
```

Output:

Number of inputs:7

Fibonacci series:

0
1
1
2
3
5
8

The screenshot displays a Python IDE with two windows. The left window, titled 'Fibonacci series.py', contains the following code:

```
File Edit Format Run Options Window Help
# To get the num of input
nterms = int(input("Number of input: "))

# first two terms
n1, n2 = 0, 1
count = 0

# To check whether the number is positive
if nterms <= 0:
    print("Please enter a positive integer")
# To return the single value for the single input
elif nterms == 1:
    print("Fibonacci sequence upto", nterms, ":")
    print(n1)
# To generate fibonacci series
else:
    print("Fibonacci series:")
    while count < nterms:
        print(n1)
        nth = n1 + n2
        n1 = n2
        n2 = nth
        count += 1
```

The right window, titled 'IDLE Shell 3.10.7', shows the program's execution output:

```
Python 3.10.7 (tags/v3.10.7:6cc8b13, Sep 5 2022, 14:08:36) [MSC v.1933 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> = RESTART: C:/Users/Ashifa/AppData/Local/Programs/Python/Python310/Fibonacci series.py
>>> Number of input: 7
>>> Fibonacci series:
0
1
1
2
3
5
8
>>>
```

The Windows taskbar at the bottom shows the system clock as 19:52 on 23-09-2022, with a weather forecast of 28°C and light rain.